

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

Claims 1-33 (Cancelled).

34. (Currently Amended) A method of producing an oil including docosahexaenoic acid (DHA) with a strain of *Crypthecodinium cohnii* comprising:

culturing a strain of *Crypthecodinium cohnii* in a nutrient medium containing a compound selected from the group consisting of acetic acid-and/or and acetate ions, the *Crypthecodinium cohnii* consuming the acetic acid-and/or or acetate ions-comprising as the primary carbon source-consumed by the *Crypthecodinium cohnii* to synthesize the DHA, wherein the culturing process parameters are controlled in a manner that results in the absence of a stationary phase during the culturing process, and
recovering oil including DHA from the strain of *Crypthecodinium cohnii*.

Claims 35-36 (Cancelled).

37. (Currently Amended) The method according to claim 34, wherein the consumption of the acetic acid-and/or or acetate ions by the *Crypthecodinium cohnii* as the primary carbon source causes an increase in pH of the nutrient medium and the method further includes monitoring the pH of the nutrient medium and adding more acetic acid-and/or or acetate ions to the nutrient medium in response to an increase in the pH of the nutrient medium.

38. (Previously Presented) The method according to claim 37, wherein the adding is in an amount effective to maintain the pH of the nutrient medium substantially at a value of between about 5 and about 8.

39. (Previously Presented) The method according to claim 38, wherein the adding is in an amount effective to maintain the pH of the nutrient medium at about 6.5.

40. (Previously Presented) The method according to claim 37, wherein the pH of the nutrient medium is monitored by means communicating with a control device, and wherein the control device controls the adding.

Claims 41-42 (Cancelled).

43. (Previously Presented) The method according to claim 37, wherein the adding is in a mixture including an organic acid.

44. (Previously Presented) The method according to claim 37, wherein the adding is in a mixture including a lipid.

45. (Currently Amended) The method according to claim 37, wherein the acetic acid ~~and/or~~ or acetate ions are supplied from a waste product from an industrial process.

46. (Previously Presented) The method according to claim 37, wherein the adding is in a mixture including a nitrogen source, a phosphorus source, an amino acid, a vitamin, a growth factor, a salt or a lipid.

47. (Currently Amended) The method according to claim 34, wherein prior to the culturing ~~the strain of *Cryptocodinium cohnii* in acetic acid and/or acetate ions~~, an inoculum containing the strain of *Cryptocodinium cohnii* is prepared by culturing in a nutrient medium containing glucose.

Claim 48 (Cancelled).

49. (Previously Presented) The method according to claim 34, wherein the nutrient medium contains yeast extract in an initial concentration greater than 7.5 g/l.

50. (Previously Presented) The method according to claim 49, wherein the initial concentration of yeast extract in the nutrient medium is 10 g/l.

Claims 51-73 (Cancelled).

74. (Previously Presented) The method of claim 34, wherein culturing the strain of *Cryptocodinium cohnii* is performed as a continuous or semi-continuous process.

Claim 75 (Cancelled).

76. (Previously Presented) The method according to claim 34 further comprising purifying the docosahexaenoic acid.

Claim 77 (Cancelled).

78. (Currently Amended) The method according to claim 34, wherein the initial concentration of the acetic acid~~and/or~~ or acetate ions in the culture is between 4 and 16 g/l.

79. (Currently Amended) The method according to claim 78, wherein the initial concentration of the acetic acid~~and/or~~ or acetate ions is about 8 g/l.

Claim 80 (Cancelled).

81. (Previously Presented) The method according to claim 34, wherein the percent docosahexaenoic acid in the oil recovered from the strain of *Crypthecodinium cohnii* is at least 28.9.

82. (Previously Presented) The method according to claim 34, wherein after culturing for 72 hours, the total concentration of docosahexaenoic acid synthesized by the strain of *Crypthecodinium cohnii* is at least 0.9 grams per liter of nutrient medium.

Claims 83-86 (Cancelled).